

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 07-002611

(43)Date of publication of application : 06.01.1995

(51)Int.Cl.

A01N 57/28
A01N 25/14
A01N 25/22
// (A01N 57/28
A01N 59:06)

(21)Application number : 05-144957

(71)Applicant : SUMITOMO CHEM CO LTD

(22)Date of filing : 16.06.1993

(72)Inventor : KATAYAMA YASUYUKI
OTSUBO TOSHIRO
DANIERU SHII HEFUANAN

(54) AGRICHEMICAL SOLID FORMULATION

(57)Abstract:

PURPOSE: To improve the storage stability of acephate in an acephate technical product or in an agrichemical solid formulation containing the acephate by adding synthetic calcium silicate.

CONSTITUTION: A method for stabilizing acephate comprises adding synthetic calcium silicate to an acephate technical product or an agrichemical solid formulation containing the acephate, and the acephate improved in storage stability by adding the synthetic calcium silicate.

LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

Copyright (C); 1998,2003 Japan Patent Office

* NOTICES *

Japan Patent Office is not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

CLAIMS

[Claim(s)]

[Claim 1] Agricultural-chemicals solid preparations characterized by containing acephate and a synthetic calcium silicate.

[Claim 2] A stabilization method of agricultural-chemicals solid preparations characterized by adding a synthetic calcium silicate in agricultural-chemicals solid preparations containing acephate.

[Claim 3] Stable acephate which comes to add a synthetic calcium silicate.

[Translation done.]

* NOTICES *

Japan Patent Office is not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the stable agricultural-chemicals solid preparations containing acephate.

[Description of the Prior Art] Acephate (O, S-dimethyl aceti RUHOSU foramide thioate) is a compound which has [with a page / 1st / of edition / of The Pesticide Manual / 8th / (1987 The British Crop Protection Council issue)] the insect-killing activity of a publication, and since it is effective in prevention of various noxious insects, it is used as an active principle of the insecticide for current agriculture.

[Problem(s) to be Solved by the Invention] However, since the stability of acephate of a under [agricultural-chemicals pharmaceutical preparation] was not not much high, depending on conservation conditions, decomposition of the acephate in pharmaceutical preparation was intense, and, as a result, might be unable to harness insecticidal potencial of acephate effectively. Then, development of the stable agricultural-chemicals pharmaceutical preparation containing acephate was desired.

[0002]

[Means for Solving the Problem] This invention offers stable agricultural-chemicals solid preparations containing acephate and a synthetic calcium silicate, and twists them for acephate in agricultural-chemicals solid preparations to be stabilized by addition of a synthetic calcium silicate. Generally an amount of a synthetic calcium silicate effective in stabilizing acephate is more than the 0.05 weight section to the acephate 1 weight section. A synthetic calcium silicate used in this invention adds a calcium chloride to a specific silicate aqueous solution, and is usually manufactured by drying settlings.

[0003] Although agricultural-chemicals solid preparations of this invention contain (a) acephate, (b) composition calcium silicate, and solid support for (c) pharmaceutical preparation, the synthetic calcium silicate itself can also usually be used for them as solid support for pharmaceutical preparation. A content of a synthetic calcium silicate which a content of acephate in agricultural-chemicals solid preparations of this invention is generally 5 - 95 % of the weight preferably 0.5 to 99% of the weight, and is a stabilizing agent is usual [which can stabilize acephate / an amount and 1 - 99 % of the weight of usual]. As solid support for pharmaceutical preparation used in this invention, nature support of organic, such as minerals support, such as synthetic support, such as mineral salt, such as mineral matter support, such as kaolin clay, attapulgitic clay, sericite clay, pyrophyllite clay, montmorillonite clay, a zeolite, a bentonite, acid clay, activated clay, serpentine, talc, and diatomaceous earth, a sulfate, a nitrate, and a chloride, and a silica, a saccharide, starch, a dextrin, wheat flour, a soybean meal, corn powder, and wood flour, be mentioned Such solid support for pharmaceutical preparation is usually preferably contained 20 to 70% of the weight one to 90% of the weight in agricultural-chemicals solid preparations of this invention.

[0004] Agricultural-chemicals solid preparations of this invention may contain various kinds of adjuvants for agricultural-chemicals pharmaceutical preparation as occasion demands further, a surfactant, coloring matter, perfume, a well-known stabilizing agent, etc. are mentioned as this adjuvant for pharmaceutical preparation, and these are usually preferably contained two to 10% of the weight 0.1 to 35% of the weight in agricultural-chemicals solid preparations of this invention. As a surfactant, for example Alkyl-sulfuric-acid ester salts, such as sodium lauryl sulfate, Alkylaryl sulfonates, such as alkyl naphthalene sulfonic-acid sodium, Ligninsulfonic acid salts, such as ligninsulfonic acid sodium, a succinate derivative, A polyethylene-glycol alkyl aryl ethereal sulfate ester salt, The Nonion nature surfactants, such as anionic surfactants, such as a formaldehyde condensate of an aromatic series sulfonate, polyoxyethylene alkyl ether, polyoxyethylene alkyl aryl ether, and the polyoxyethylene aryl aryl ether, are mentioned. In addition, agricultural-chemicals solid preparations of this invention may contain an agricultural-chemicals active

ingredient of further others.

[0005] A surfactant etc. is added further as occasion demands and it mixes by a mixer etc., and grinders, such as Ayr Mill, a hammer mill, and a centrifugal type grinder, grind, or agricultural-chemicals solid preparations of this invention are manufactured by (a) acephate, (b) composition calcium silicate, solid support for (c) pharmaceutical preparation, and usual method of casting these grinding objects to granularity using compacting machines, such as a roller compactor, a pellet mill, and tumbling granulator further.

[0006]

[Example] Although the example of pharmaceutical preparation and the example of a trial are given and this invention is hereafter explained more to details, this invention is not limited only to the following examples.

After mixing the example of pharmaceutical preparation 1 acephate 50 weight section, and the flow light R(Tokuyama Soda composition calcium silicate) 50 weight section by the mixer, it pulverizes with a centrifugal type grinder and the water dispersible powder which is the agricultural-chemicals solid preparations of this invention is obtained.

After mixing the example of pharmaceutical preparation 2 acephate 50 weight section, and the EKUSUTORU-Jill (Degussa AG composition calcium silicate) 50 weight section by the mixer, it pulverizes with a centrifugal type grinder and the water dispersible powder which is the agricultural-chemicals solid preparations of this invention is obtained.

[0007] After mixing the example of pharmaceutical preparation 3 acephate 10 weight section, the sodium-lauryl-sulfate 5 weight section, and the EKUSUTORU-Jill 85 weight section by the mixer, it pulverizes with a centrifugal type grinder and the water dispersible powder which is the agricultural-chemicals solid preparations of this invention is obtained.

After mixing the example of pharmaceutical preparation 4 acephate 25 weight section, the sodium-lauryl-sulfate 5 weight section, and the EKUSUTORU-Jill 70 weight section by the mixer, it pulverizes with a centrifugal type grinder and the water dispersible powder which is the agricultural-chemicals solid preparations of this invention is obtained.

After mixing the example of pharmaceutical preparation 5 acephate 75 weight section, the sodium-lauryl-sulfate 5 weight section, and the EKUSUTORU-Jill 20 weight section by the mixer, it pulverizes with a centrifugal type grinder and the water dispersible powder which is the agricultural-chemicals solid preparations of this invention is obtained.

After mixing the example of pharmaceutical preparation 6 acephate 25 weight section, the sodium dodecylbenzenesulfonate 5 weight section, the EKUSUTORU-Jill 50 weight section, and the kaolin clay 20 weight section by the mixer, it pulverizes with a centrifugal type grinder and the water dispersible powder which is the agricultural-chemicals solid preparations of this invention is obtained.

[0008] The water dispersible powder obtained in the examples 1 and 2 of pharmaceutical preparation of the example of trial 1 above was enclosed with 50ml ** glass ampoule, and it saved for two weeks in 60-degree C humidistat. The acephate content in the pharmaceutical preparation before and behind conservation was measured using the gas chromatography, and the cracking severity was searched for by the degree type.

[Equation 1]

$$\text{分解率 (\%)} = 100 - 100 \times \frac{\text{保存後のアセフェート含量}}{\text{保存前のアセフェート含量}}$$

Moreover, it sets for the example 1 of pharmaceutical preparation, and is the flow light R. Cracking severity was similarly searched for about the comparison pharmaceutical preparation 1 which replaced with 50 weight sections and manufactured medicine like **** for the WESSARON S(Degussa AG composition silicic acid) 50 weight sections. A result is shown in a table 1.

[A table 1]

供試組成物	分解率 (%)
製剤例 1 の組成物	2
製剤例 2 の組成物	3
比較製剤 1	3 5

[0009] The water dispersible powder obtained in the examples 3, 4, and 5 of pharmaceutical preparation of the example of trial 2 above was enclosed with 50ml ** glass ampoule, and it saved for two weeks in 60-degree C humidistat. Using

the gas chromatography, the acephate content in the pharmaceutical preparation before and behind conservation was measured, and the cracking severity was searched for by the above-mentioned formula. Moreover, it sets for the examples 3, 4, and 5 of pharmaceutical preparation, and he is EKUSUTORU-Jill. Cracking severity was similarly searched for about the comparison pharmaceutical preparation 2, 3, and 4 which replaced with 80, 75, and 20 weight sections, and manufactured medicine like TOKUSHIRU GU-N (Tokuyama Soda composition silicic acid) 80 and 75 and **** for 20 weight sections. A result is shown in a table 2.

[A table 2]

供試組成物	分解率 (%)
製剤例 3 の組成物	9
製剤例 4 の組成物	6
製剤例 5 の組成物	2
比較製剤 2	6 5
比較製剤 3	4 8
比較製剤 4	3 1

[0010]

[Effect of the Invention] It comes to improve the conservation stability of the acephate in the agricultural-chemicals solid preparations in which this invention contains an acephate Hara object or acephate by addition of a synthetic calcium silicate.

[Translation done.]